



Ionia's Soap Box Derby Rules



The size of the car is limited to a maximum of 5 ft. wide, 5ft. tall and 8 ft. long. The car must be able to be picked up and moved by the 2 people (pit crew) of your choice. Entries must also have 3 or more wheels that contact the ground at all times. Cars can be made of any suitable material, but please use screws instead of nails.

1. No motors!

➤ Each derby car must be gravity powered. No motors, engines or other sources of energy.

2. Steering is a must.

➤ Simple pivot steering is the most basic and common steering system. Basically, the front axle is a solid piece that rotates about a single pivot in the center. This system is the simplest to construct and is quite adequate since you will not need a big turning radius.

➤ Four bar linkage is like the steering mechanism that you might find in your automobile. It is more complex and harder to construct and thus it is seldom recommended. Whatever method of steering you use it is most wise to limit it to the range of your car. The derby will be run on a straight course so that there will be little need for sharp turns. Please do not design your car to turn on a dime, it is not safe and may cause your car to flip.

3. STOP!

➤ Skid pad on the wheels is a very basic, yet very effective braking method. In this method, you setup a pad or brake shoe that rubs against the wheels to stop the car. This is the most preferred method for cars made from scratch because of its effectiveness and simplicity.

➤ A skid pad on the ground is similar to the first option, but instead of the pad contacting the wheels, it contacts the ground. This method is a little more complex to construct and probably less effective than the pad on the wheels method. However, this is the method that was first used in soapbox racers.

➤ Caliper brakes on the wheels are like your basic bicycle brakes. This method works great although the construction needs to be fairly concise for the brakes to be effective.

➤ Anchor or parachute could be used – but, *just for fun!* Regardless of the braking system that you choose the most important thing is that the car must be able to stop. Good brakes will go a long way in preventing crashes.

4. Safety first.

➤ Helmets are a must! Please do not alter helmets in any way that would change their effectiveness. Cars will not be allowed on the track unless the driver is wearing a helmet. Elbow pads are also strongly encouraged.

➤ All vehicles will be inspected for required equipment prior to being allowed on the track.

5. Entry form/permission slip required.

➤ Be sure to pick up an entry form/permission slip before the race. All drivers under the age of 18 must have the permission slip signed by their parent/guardian to enter the derby. Entry forms should be turned in to Hamblin Body Shop by 10:00 am on June 20, 2015. Please note that permission slips must be signed in order to race.

